THE

MEDICAL AND SURGICAL REPORTER.

No. 871.] PHILADELPHIA, NOV. 8, 1873. [VOL. XXIX.—No. 19.

ORIGINAL DEPARTMENT.

LECTURE.

CLINICAL LECTURE.

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REPORTED BY DR. LOUIS STARR.

Diagnosis and Treatment of Thoracic Aneurism.

GENTLEMEN:—The last two lectures have been occupied with the study of abdominal aneurisms. Let me now ask your attention to aneurisms of the thoracic aorta. I will first show you a patient whom I believe to be suffering from this affection.

H. ——, aged 52 years, by occupation a sail-rigger, enjoyed general good health until about fifteen months ago. His calling has obliged him to use severe exertion with his arms, but he never felt any trouble about his chest until July, 1872; he then found that his breathing was growing short, and that he had palpitation of the heart on exertion. This grew worse, and has obliged him, for the last eight months, to give up work. He has suffered with severe pain about the region of the left nipple, shooting through to the angle of the left scapula; the palpitation of the heart has been worse, and he has had much dyspnœa, which was always aggravated by lying down. He has never, however, had any difficulty in swallowing. His voice is somewhat husky, but it is difficult to say how far this has been the result of his disease. As you now see him, his face seems anxious, and his pallor and emaciation speak of long suffering. The pupils of his eyes are small, equal, and but little influenced by light. He suffers from no local sweating about the head. The pulse is regular, and is slightly fuller upon the left side than upon the right. On examination of the chest, the apex beat of the heart is found on the line of the nipple in the fifth interspace; it is quite feeble. There is another centre of pulsation to the left of the sternum at the third rib. There is dulness on percussion around this point, over an area of two inches in diameter. The space is also distinctly prominent; there is no thrill to be felt over it, but upon auscultation a long, low, rough murmur is heard, coincident with the second sound of the heart. This murmur is strongest over the point of unnatural pulsation, to the left of the sternum, in the second interspace; it is transmitted with moderate force into the large arteries; it is not heard with equal force at the aortic cartilage, nor down along the sternum. It therefore does not follow the ordinary law of murmurs due to disease of the aortic valves. So, too, on going downward over the body of the heart, the murmur rapidly loses force, and is but feebly heard at the apex. It is evidently, therefore, not due to disease of the mitral valve. There are no signs of disease of the lungs; and as the symptoms do not agree with those of valvular disease of the heart, the question naturally arises whether they may not be due to disease of the thoracic aorta. Now, the evidences of thoracic aneurism, like those of abdominal ones, may be divided into rational symptoms and physical signs. The rational symptoms are either pain from pressure upon any of the numerous adjacent sensitive

nerves, or those due to compression of the neighboring organs by the aneurismal tumor, and may be stated as follows: aphonia, from pressure on the recurrent laryngeal nerve; dyspnœa and stridulous respiration, from compression of the trachea or large bronchi; difficulty of swallowing, from pressure on the œsophagus; irregularity of the pupils and local sweating of the head, from pressure on the cervical ganglia of the sympathetic nerve, and inequality or extinction of the radial pulse on one side of the body. The physical signs are: local bulging of the chest wall, dulness on percussion, pulsation synchronous with that of the heart, and the presence of a thrill over the position of the aneurism, while, on auscultation, either the heart sounds or an aneurismal bruit can be heard. These two classes seem to be, to a certain extent, antagonistic, being rarely found together in an equally marked degree, except in cases where the tumor is very large; and whether the one or the other is present, depends upon the size and position of the dilatation. Thus a small aneurism, springing from the first part of the arch of the aorta, so as to approach the anterior chest wall, may give rise to decided physical signs without any symptoms of pressure; while an aneurism of the same size, seated on the transverse part of the arch, might cause most serious rational symptoms, without approaching near enough to the chest wall to give rise to a single physical sign. In the present case you will observe that there are scarcely any rational symptoms of aneurism—merely slight decrease in the strength of the right pulse, and some hoarseness of voice. But, on the other hand, the physical signs (pulsation, local prominence, dulness on percussion, and aneurismal murmur) are so well marked that there can be no hesitation in saying that there is an aneurism of the thoracic aorta, probably situated on the anterior surface of the vessel, just above the valves. The result of auscultation over aneurismal tumors varies so greatly as to merit a word of further description. In some cases both the cardiac sounds are repeated over the tumor, as though re-echoed in the cavity of the sac; in others a murmur is heard, corresponding in time with one or both cardiac sounds, the situation of the point of its greatest intensity distinguishing it from an ordinary valvular murmur; and finally, other instances may be met with in which no murmur at all can be detected. In the patient before you, the bruit is transmitted downward only to the lower border of the 4th rib, and has its seat of greatest intensity over the 3d, an inch inside of the left nipple. This is also the position of strongest impulse.

Atheroma, although it is here, as well as elsewhere, the chief cause of aneurism, is not confined to the place of dilatation, but involves the whole aorta, and often extends into its branches. The roughness thus produced gives rise to a murmur which is sometimes so strong, and accompanied by so much thrill, as to lead to doubt whether there is an aneurism, or merely arterial degeneration, with some uniform dilatation of the aorta. In such cases we must chiefly rely on the presence or absence of symptoms of pressure to determine our diagnosis. In some instances, also, the tumor is so small and deeply seated that it produces no symptoms of any kind, and its existence, therefore, cannot be ascertained during life; but we may confidently say, that if any considerable size or proximity to the exterior has been attained, a diagnosis can, by proper care, always be made. When the thoracic aorta is the seat of aneurism, mechanical treatment is out of the question, and the main reliance must be placed on internal medication. Depletion, large doses of acetate of lead, or other drugs calculated to favor coagulation, are generally useless; and good results can only be hoped for from means that tend to arrest the atheromatous degeneration. It is thus that, by the continued use of iodide of potassium, in full doses, there is reason to hope that much good may sometimes be accomplished. This is especially useful where there is any syphilitic taint; but even where there is none, the course of the disease seems to be advantageously influenced by it. At the same time care must be taken to reduce the circulation by a proper diet, the avoidance of undue mental or physical exertion, the use of veratrum viride and aconite where the action of the heart is strong and regular, or digitalis where it is rapid and irregular. The pain caused by pressure is best relieved by hypodermic injections of morphia. Nothing need be said of the employment of pressure over the tumor as it begins to protrude, for it has no effect. But there is one other mode of treatment which should be mentioned; it is electrolysis. Two delicate needles are inserted into the sac, and a current from a galvanic battery passed through them, the object being to coagulate the blood. This ope-

ration has been performed a number of times during the past few years, sometimes with successful, but more frequently with unsuccessful or even injurious results; hence no positive directions can be given for its use except that it ought never to be employed unless life is urgently threatened, either from rupture or compression.

In spite of all treatment, and the fact that nature occasionally performs a spontaneous cure, the disease usually progresses steadily to a fatal termination. This may result from the violence of the compression causing inanition, suffocation, or erosion of the vertebra, and suspension of the functions of the spinal cord. The aneurism may also rupture in various directions, as into the œsophagus, the trachea, the pleural cavity, or upon the external surface, and, finally, into the great vessels—for example, into the pulmonary artery. The last mode of termination is well illustrated by the case of a middle-aged man who came into the hospital on Sept. 12th, and died a few hours after admission, so that no history could be obtained. At the autopsy, the heart was found to be attached to the surrounding organs, filling a great part of the left half of the thorax and extending into the right half. The weight of the heart was 34 ounces. The pericardium was universally adherent. The left ventricle was dilated and slightly hypertrophied; the mitral valve sound; and the leaflets of the aortic valve, though thickened at their edges, were competent. The aorta was atheromatous throughout, and on its right side, just above one of the leaflets of the valve, was an opening one inch and a half in diameter, leading into the cavity of a large aneurism. This was, of course, entirely contained within the pericardium, and by its pressure had forced itself between the muscular trabeculæ of the wall of the right ventricle, so that on opening this cavity a large rounded mass, covered with the endocardium, was seen projecting into it. The cavity of the aneurism measured five inches in diameter, and was lined by a layer of fibrin three-quarters of an inch thick, which could be separated and torn off in plates. The right ventricle was moderately hypertrophied, but the tricuspid and pulmonary valves were healthy. In the wall of the pulmonary artery, just above its valves, there was a small opening, with irregular, softened and discolored edges, which also communicated with the sac of the aneurism. Death had evidently resulted from this perforation of the wall of the pulmonary artery and the rupture of the aneurism into that vessel.

Communications.

THE SPECTRUM MICROSCOPE IN THE PARASITIC WORLD.

BY J. J. CALDWELL, M. D.

Read before the Maryland Epidemiological Society.

The spectroscope, as applied to medicine. Dr. Waterman, of New York, has shown, in his able work on this instrument, that the greatest physicists in Europe have freely acknowledged its high importance and usefulness. And its accomplishments in the micro-parasitic discoveries may be considered as among the highest triumphs of the human intellect. The material accumulated up to the present hour, bearing directly upon the domain of true medical progression, is intensely interesting, and it is safe to say that no man can claim to stand at the head of chemistry or medicine who is ignorant of the results of spectral analysis. The process of making an analysis by means of the spectroscope is simple enough. Bodies to be examined are either solid, fluid, or gases. The solids must be brought to a state of incandescence, either by means of the electric arc or the compound oxygen blow-pipe, when they admit rays of all degrees of refrangibility.

Fluids are placed before the slot, in suitable glass vessels, with plano-parallel walls; tubes may also be used. Fluids give absorption bands in various parts of the spectrum.

Gases are examined by means of an electric induction spark, which passes through their extremely attenuated atmospheres. The apparatus employed consists of a thin bored thermometer tube, with a bulb at each extremity, into which electrodes of platina or aluminum are inserted. The tube is filled with the gas to be examined, and then exhausted by the air pump until the one-sixth-hundredth of the one-seven-hundredth part of the ordinary pressure of the air is left. In that state of attenuation the gas offers very slight resistance to the electric spark; it becomes very hot, emits brilliant and beautiful light of varying colors, changing, of course, with the different gases employed.

Thus, no substance can defy the analytical power of the spectroscope. Every known metal, alkali, or alkaline earth, when heated up to a gaseous state, gives off light peculiar to itself, influencing and changing the spectrum in a manner peculiar to itself and to none other, some of them absorbing all the colors of the spectrum, with the exception of a single bright band, of which sodium and thallium furnish an example. Others are known by many fine, bright lines, in various parts of the spectrum, as barium, carsium, rubidium.

The fluids show dark bands in the spectrum, of various depths of shading, breadth, and purity of outline. These black bands are called absorption bands. When colored fluids are examined we witness, also, modifications of the spectrum. None, however, is so rich and distinctive in feature, none has attracted more deserved attention, than the spectrum of the blood, in parasitic and blood-poison cases, and the exhaustive analysis of blood, by the spectroscopic tests, forms the basis of its applicability to the diagnosis and treatment of diseases.

Sir Humphrey Davy discovered, by means of a glass prism, that a beam of white light, proceeding from the sun, might be separated into all the colors of the rainbow. Having darkened his room, he made a hole in the window shutter, and placed behind it a glass prism, with one of the sharp edges looking downwards and one of the flat edges looking uppermost. The beam from without fell on the glass within; the wall of the opposite side was irradiated with a strip of variegated light, as if a slice of rainbow were clinging to it. The lower end of the luminous band was of a rich, warm red, and this passed, by a tint of orange, into a bright yellow, which again died away into the deepening hues of green, into a narrow strip of dark blue, while at the upper end the indigo tint became warmed into a brilliant edging of violet.

Thus, in Davy, we find the discoverer of what might be truly called the iriscope. Since his day we have such authority as Kirchhoff, of Heidelberg; Stokes, Brunsen, Crooks, Reich, Reichter of Friedburg, Saxony. Then we have Schmidt and Puneger's experiments with dogs (parasitic diseases of). Also Petuekoler's tests for the same. And in England, Dr. Thudicum, Calvert, and Beale; all their material examinations directly applying to the practice of medicine. For a full and illustrated description of the spectrum-microscope see Beale's latest works.

Now, to show the extraordinary delicacy of the spectrum test, as well as to give an idea of its sensitiveness, let us take one pound of table salt and divide it into half a million parts. One of these minute atoms of matter is called a milligramme. The experienced chemist is able to weigh such a minute particle only with the most delicate scales, with extraordinary care and acquired dexterity, but with this performance he has arrived at the limits of possibilities.

Again, let us divide one of these minute particles into three million parts and we obtain atoms of matter so minute that the human mind is incapable of forming any conception of them, yet we may demonstrate their presence by the spectrum, with the utmost certainty and ease; yes, even the dusting of a book in the remotest part of this room will immediately cause the sodium to dart forth with a brilliant line of yellow, and thus reveal its presence. In fact, there is no limit to the infinitesimility of matter under the searching power of the spectrum-microscope.

"See through this air, this ocean, and this earth,
All matter quick and bursting into birth.
Above how high progressive life may go,
Around how wide, how deep extend below.

"Vast chain of being, which from God began,
Nature ethereal, human, angel, man,
Beast, bird, fish, *insect*, which no eye can see,
No glass can reach, from Infinite to Thee."

Through this instrumentality M. Pasteur has shown that all fermentation and putrefactions are due to the presence of microscopical vegetables and animals. Calvert says that the source of infection or contagion is not due to noxious gases or bad smells, but to microscopic spores floating in the atmosphere. Dr. Jules Lamaire says that the germs or sporules floating in the atmosphere vitiate it. Calvert says that this is why carbolic acid was used with such marked success in England, Belgium and Holland during the prevalence of cholera and cattle plague.

Mr. W. Crooks, F. R. S., asserts that the gas exhaled from the lungs of diseased cattle contains germs, sporules, and microscopic animals, when examined by Mr. Beale. Beale also found them in the blood of such animals. Mr. Crooks, having condensed, on

cotton-wood, these germs, he inoculated healthy cattle with them. Professor Chandelen, of Liege, states that of his one hundred and thirty-five nurses tending cholera patients only one nurse died, because he disinfected and destroyed this animalculæ as fast as it was eliminated.

Again, the learned Gratiolet and Lamaire show conclusively that the contagions of pestilential diseases, such as cholera, small-pox, and typhoid fever, are due to their own peculiar parasites.

The same remarkable results, in fact, have been established at Hotel Dieu, by Maisonneuve, and further we will mention among other eminent physicians the name of James Pagett, Esq, endorsing the above views.

According to the observations of Obermier, the blood of persons laboring under relapsing fever contains peculiar filiform bodies, which exhibit very active spontaneous movements. In the able work of Wm. B. Neftel, M. D., of New York, entitled "Some of the Recent Researches in Pathology," he says: "I wish to call the attention of the profession to those *parasitic vegetable organisms* which play so important a part in infectious diseases." He refers to Pasteur, P. Stendener, Cline, Vortrage, Tuckeri, Schoenline, Traub, Klebs (the latter Professor of Pathological Anatomy and pupil of Virchow). All these maintain for a peculiar fungus to diphtheria, scarlet fever, measles, typhoid, and last, typhus poison, being an animal parasite. And lately, Professor Cohn, of Breslau, has demonstrated that small-pox is due to a parasite. These views are also maintained strongly by Professor Saulsbury, of Toledo, Ohio, who has made many thousand examinations, and carried his investigations further into the parasitic world than any other American writer. And lastly, the learned Beale uses this instrumentality for detecting living and lifeless particles in the atmosphere, and in the breath of sick animals.

In conclusion we would remark that Happ has been able to show, with the assistance of Stokes, by this process, that the coloring matter of blood was capable of existing in two states of oxidation, and Waterman, of New York, has proven by this the danger of the administration of nitrous-oxide gas, so changing its, the blood's, constitution as to create leucocythemia, which is now supposed to be a parasitic disease.

THE DEEP INJECTION OF CHLOROFORM FOR THE RELIEF OF TIC-DOULOUREUX.

BY PROF. ROBERTS BARTHOLOW, M.D.

Read before the Academy of Medicine, September 13th, 1873, and reported for the MEDICAL AND SURGICAL REPORTER by Dr. J. W. HADLOCK, Secretary.

The remarkable success which I have obtained by the subcutaneous injection of chloroform in some cases of tic douloureux, justifies, it appears to me, this special report on the subject. It is true, that the injection of a few drops of chloroform into the gums for the relief of toothache has been practiced by others, and by myself, with success, but, hitherto, as far as I am aware, no one has used the deep injection of chloroform for the cure of *tic douloureux*. Indeed, the hypodermic injection of chloroform has been regarded as improper, owing to the violent local inflammation which follows its introduction in the subcutaneous areolar tissue. Thus, Dr. Anstie in an article* on the "hypodermic injection of remedies" says of chloroform, that it is "an agent entirely unfit to be used in that way." Hunter† had previously, after some trials, made a similar declaration: "The injection of chloroform is not to be recommended for the human subject." This remark is all the more noteworthy because Hunter was one of the earliest and most enthusiastic advocates of the hypodermic method. Eulenburg‡ simply repeats the experiences of Hunter, and mentions a case reported by Sandras, in which ten drops of chloroform were injected.

The ill effects produced by the injection of chloroform into the areolar tissue are these: vaporization of the chloroform and consequent gaseous distention of the surrounding parts, painful swelling, inflammation, and the formation of an abscess. The pain experienced by the patient at the moment of injection is also considerable, and as the needle is withdrawn the chloroform acts with energy on the wounded skin. These are very serious and almost insuperable objections to the hypodermic injection of this agent. The same objections do not hold against the deep injection of chloroform according to the method which I practice for the cure of tic douloureux. It is true

* The *Practitioner*, vol. i, p. 83.
† On the Speedy Relief of Pain.
‡ Die hypodermatische injectionen der Arzneinurtiel, p. 286.

considerable pain is experienced and swelling arises, but the pain quickly subsides, and no inflammation ensues, and no abscess is produced.

The needle is inserted under the upper lip, which is raised, and passed so deeply that its point shall rest near the infra-orbital foramen. The chloroform is then slowly injected. When the needle is withdrawn, firm pressure from the cheek is made over the point of insertion of the needle, and is maintained for a time to insure the diffusion of the chloroform. At the moment of injection some burning pain is experienced, but this is quickly followed by a feeling of numbness of the upper lip and anæsthesia of the parts into which the chloroform is diffused. In a very short time a distinct swelling is perceived at the site of the injection, which is at first puffy, but afterward becomes harder and may continue indurated and swollen for a day or two. In a few seconds after the chloroform is inserted decided giddiness is experienced and the gait is staggering. Generally the giddiness passes off in a few minutes, but in one case the patient complained of an intoxicated feeling for two days.

Drowsiness has usually occurred; thus far not decided narcosis in any case, although as much as thirty minims have been administered at a dose.

It is generally admitted that injection of the anodyne at the site of pain is not necessary to the relief of neuralgia. The curative effect is supposed to be due to the impression made by the anodyne on the centre of consciousness. Whilst this is undoubtedly true, there are many reasons for believing that the local influence of an anodyne on the end-organs, the seat of a painful impression, is very serviceable, for pain of peripheral origin is made up of two factors, an irritation of the sensory nerves, a realization of this irritation by the centres of conscious impressions. Furthermore, there are good reasons for believing that improvement in the condition of nerves, the seat of a painful sensation, reacts beneficially on the centre with which they are physiologically and pathologically connected, although the peripheral pain may be the reflection outwardly of a centric lesion.

The deep injection of chloroform for the relief of *tic douloureux* has a justification in these physiological principles. The astonishing result which has followed its use in the cases which I am about to narrate seems to me to have been wrought in two modes of action, the local effect of chloroform on the painful nerves, rendering them incapable of reacting to the impression of pain, and the more direct effect of deep injection on the sensorium. The first mode of action has been sufficiently illustrated in physiological principles above given; the other may require explanation. It is a singular anatomical fact that the facial vein communicates with the pterygoid plexus and the cavernous sinus; hence an injection of chloroform into the part I suggested and practiced in this operation must reach the brain more directly than by any other route. The effect, hence, may be much more decided than when injection is practiced into remote parts.

Case 1.—Mr. M——, aged about fifty years, married, and by occupation a book-keeper; a tall, rather spare man, of nervo-sanguine temperament. His hair and beard are freely sprinkled with gray. Although pursuing a sedentary occupation, he has had considerable out-door exercise, and led a rather active life. Being in good circumstances his hygienic surroundings have been favorable. He has lived freely and has always had a good appetite and vigorous digestion. He is accustomed to the daily use, in moderation, of whisky and tobacco.

About two years ago Mr. M. began to suffer with pain in the infra-orbital branch of the fifth nerve. The attacks appeared with more or less frequency during the ensuing eighteen months, and gradually increased in severity. For the six months previous to consulting me the attacks became so frequent and protracted as to interfere very seriously with his nutrition; he lost considerably in weight and grew very weak. During these six months he was treated assiduously, amongst other means, by the continuous galvanic current. What remedies he received besides galvanism, and the tension and volume of the galvanic current which was applied, are not known to me. He experienced no relief from the various measures used, except temporary assuagement of the pain by the galvanic current. Besides the medical treatment he had been subjected to various dental operations; especially division and destruction of the main filaments supplying the teeth of that side.

When he presented himself to me for treatment he was in the following state: he was emaciated, and his countenance was

anxious and worn. Owing to the extreme suffering which mastication induced he had great difficulty in getting a sufficient supply of food. Every motion of the lip, the gentlest washing of the face, a touch of the cheek, induced a paroxysm of pain of horrible severity. The pain was on the right side of the face, and was experienced in the infra-orbital nerve and its terminal branches. During the paroxysm the muscles of the face were convulsed, the eye injected and profuse lachrymation occurred. There was great tenderness to pressure over the infra-orbital foramen, and a slight touch induced a paroxysm of pain. His teeth, although not very good, did not appear to be the seat of the irritation, for no pain was developed by pressure on or by striking them sharply. Raising of the upper lip always caused a severe paroxysm. In consequence of this, talking was painful, and the attempt to smile brought on an agony of suffering, so that he avoided seeing his friends. There were no evidences of intra-cranial disease except neuralgia, nor was there a history of specific infection.

The diagnosis of *tic douloureux*, the patient informed me, had been made by his previous physician. In this opinion I was, of course, able to coincide. As a great variety of remedies had been employed, I thought it useless to go over the same ground. Accordingly, I began the hypodermic injection of morphia, which, however, only gave temporary relief. Morphia and atropia in combination, and atropia alone were not more successful. I then determined, as the patient was naturally most anxious to obtain relief, to inject chloroform. Charging the syringe with a half drachm of Squibb's chloroform, I passed the needle deeply under the lip, according to the method which I have already described, and injected the chloroform in the neighborhood of the foramen. Mr. W. experienced a very severe paroxysm of pain at the moment; this was succeeded by burning pain at the site of the injection, numbness of the upper lip, giddiness and sopor, and swelling of the cheek. In rising to walk he staggered, and had difficulty in maintaining the vertical position. He went immediately home and laid down, in consequence of the continued vertigo and drowsiness. The giddiness did not entirely disappear for twenty-four hours or more. The pain ceased and has not since returned, a period of more than three months having now elapsed. The patient did not again present himself until three weeks, being desirous to ascertain, beyond peradventure, that his relief was permanent, a fact which he could scarcely realize after the protracted and agonizing suffering which he had endured. A remarkable improvement had occurred in his general condition in this time. He had gained largely in weight, and his countenance wore a cheerful expression, instead of the anxious and suffering appearance which it had before presented.

Case 2.—Mr. E. V. W——, farmer by occupation, aged about fifty-six, a man of medium height, compactly built, and of bilio-nervo-sanguinous temperament. He had always enjoyed good health and led an active, out-door life. About five years ago he began to experience decided pain in the infra-orbital division of the right fifth nerve. The paroxysms occurred at first at long intervals; within the past year they have rapidly increased, and during the last three months have been almost continuous. During this time the lightest touch on the surface of the cheek, a current of air, washing the face, raising the lower lip, and especially the mastication of food, have given rise to horrible paroxysms. Lately he has found it necessary to eat alone. The frightful contortion of the muscles of the face, and the rolling of tears down his cheek during mastication, have excited so much apprehension in his family and friends as to render this isolation necessary.

As is usual in these cases of tic douloureux the countenance of this patient expressed great suffering. He looked worn and anxious. When giving me his history he had repeated paroxysms, during which the muscles on that side of the face became convulsed, the tears rolled down his cheeks, he ceased to speak, and his countenance wore an expression of great agony. He described the pains as of two kinds: a sensation of painful vibration in the face, eye and forehead, and sudden darting pain of intense severity shooting up through the jaw to the eye and head. When I lifted up the lip to examine the mouth he had an atrocious attack, and begged me to desist until the paroxysm ceased. There was no disease of the teeth. Besides the neuralgia he had no symptom of cerebral disease. His functions were otherwise normal. The loss of flesh was plainly due to the difficulty experienced in taking in a sufficient supply of food.

I injected in the way already described thirty minims of chloroform. This brought on a severe paroxysm of pain, which continued for a few minutes but was succeeded by a feeling of relief, numbness of the face and lip, some drowsiness and swelling of the cheek. The relief to the pain lasted nearly twenty-four hours, when a light paroxysm ensued and the injection was repeated. In all, four injections were made in the space of a week, but no pain was experienced after the second injection. At the expiration of two weeks, having had, meanwhile, no recurrence of his old malady, he called to say he was perfectly well. As he has not since presented himself I have no doubt that he continues free from any return of the disease.

Hospital Reports.

LONG ISLAND COLLEGE HOSPITAL.

SESSION OF 1873.

CLINIC OF PROF. A. J. C. SKENE, M. D.

DISEASES OF WOMEN.

[Reported by Geo. W. Cushing.]

Fibrous Polypus of the Uterus Removed.

History.—Ellen McS., æt. 45 years, has had seven children, the youngest five years of age. The menstrual function has been normal up to three years ago, when she thought herself pregnant. An attack of hemorrhage occurred shortly afterwards, and she passed several masses of clotted blood. Since then the catamenial flow has never been regular. She has suffered severely from free and frequent attacks of metrorrhagia, and in the intervals has had a muco-purulent and watery discharge.

Present Symptoms.—The patient is weak and exhausted, consequent upon the constant drain to which her system has been subjected. Suffers from pain in the back; headache constantly; sleeps poorly; nervous; tongue is furred; appetite poor; bowels constipated, and has incontinence of urine, obliging her to get up at night; also distressing bearing-down pains.

Examination.—This patient has been under observation for some days, and at a previous examination revealed the uterus low down in the pelvis and larger than usual, and the passage of the sound caused bleeding, indicating a congested state of the cavity. All the signs pointed to some intra-uterine trouble. The cervix has been dilated by tents, and the patient is now present for an examination of the uterine cavity and such treatment as may be required. On carrying the finger through the cervical canal, we find a large, firm body, somewhat mobile, filling the cavity of the uterus, and by sweeping the finger around the mass, it appears to have a pedunculated attachment to the fundus. From these physical signs, the diagnosis of a polypus is made with confidence.

Comments.—This patient has been under the care of physicians, and has had a variety of remedies to relieve her pain and stop the bleeding from the uterus, but no benefit has been derived from the treatment. The cause of her persistent trouble, and the failure of treatment, are understood clearly when the diagnosis is made. Nothing can give this patient permanent relief, except to remove the cause, i.e., to remove the tumor which occupies the cavity of the uterus. Intra-uterine polypus is not easily diagnosticated, unless the os uteri is dilated. When the uterus is enlarged in all its diameters, and there is metrorrhagia, and a serous or sero-purulent discharge, which cannot be accounted for by any other condition, then polypus may be suspected, but still the surgeon cannot be sure. The sound may be used to explore the cavity, and still there may be room for doubt. The same may be said of the treatment, under the same circumstances. There is no means by which we can remove a polypus while the cervix uteri is closed. Dilatation must precede both diagnosis and treatment. Fortunately, we can dilate the cervix when it is necessary, but we are told by the best authorities that there is danger in interfering in such cases before natural dilatation has taken place. This is true, and we much prefer to have the polypus protruding from the os uteri before we undertake its removal. There are cases, like the one under consideration, where the loss of blood so prostrates the patient as to make her wholly useless, and even endanger her life. Under such circumstances we are justifiable in making artificial dilatation and removing the tumor without delay.

Treatment.—We shall remove the tumor by means of the écraseur, this method being prompt, and as free from danger as any of the means at our command in removing these growths. The patient being anæsthetized, the chain of the instrument was passed around the tumor and carried as high up as possible, so as to encircle the pedicle, and then gradually tightened until it crushed its way through the mass. The tumor (about the size of a large pear) was then brought away by the forceps, and on being incised, presented the appearance of hard fibrous tissue, characteristic of such neoplasms. There was no hemorrhage of any account, and the patient rallied well from the operation and left the hospital ten days afterwards. She reported herself at a later period as doing well, and rapidly gaining in strength and health, and wholly free from the abdominal discharge. There are quite a variety of ways and means by which uterine polypi are removed. The size and location of the tumor, and its structure, whether hard or soft, are the conditions which guide us in selecting the method of operating. When the tumor is large and pedunculated, as in this case, the galvano-cautery or the écraseur are to be

preferred. The wire loop of the galvano-cautery has great advantages over all other means in removing a polypus like this. The operation can be done quickly and without hemorrhage (if you know well how to manage the instrument), and the stump heals up very promptly. On the other hand, there are these difficulties in the way: The galvano-cautery is an expensive instrument, and extremely difficult to keep in order and to carry around. Much practice is required in working it, or else injury may be done by it. The écraseur, on the other hand, is cheap, easily managed, always ready, and answers perfectly well, as this case illustrates. I am sure that any of you can get an écraseur, and use it, but few, if any of you, will ever possess a galvano-cautery. This is why I have shown you this mode of operating.

Myo-Fibroma of the Cervix Uteri—Enucleation—Recovery.

History.—Mary R., æt. 30 years; married five years, but never was pregnant. Her general health had always been good until after her marriage. About four years ago she began to menstruate more freely than was her habit in early life. This trouble gradually got worse, and for the last year she has had extreme menorrhagia. The flow has not been absent more than a week at a time, and during this time she has had free leucorrhœa.

Condition when Admitted to Hospital.—She had all the symptoms of well-marked anæmia; was nervous and sleepless at night; had pain in the back, extending down to the limbs; appetite poor; bowels variable, but usually constipated; frequent urination during the day, and constant pelvic tenesmus.

Examination.—Bi-manual manipulation revealed a hard mass attached to the posterior wall of the cervix, and filling up the whole vagina. The enlarged condition of the wall of the uterus indicated that its interstitial tissues were involved in the morbid growth. Passing the sound revealed the fact that the internal cavity was enlarged, but the increased growth was principally confined to the cervix. Any movement of either the tumor or the uterus was conveyed to the other, thus showing that they were firmly united. From the signs and symptoms obtained, myo-fibroma of the interstitial variety was diagnosticated.

Comments.—In the history of this case, obtained from the patient herself, we observe that the chief trouble was menorrhagia, and great debility caused it. Now, while this marked symptom is all-sufficient to excite suspicion of fibroid growth in a patient of this age, still the diagnosis cannot be made without the aid of physical signs. In this case an examination of the uterus placed the matter beyond doubt, owing to the location of the tumor. Had the tumor been located in the body of the uterus, the diagnosis might have been less positive. Finding the tumor settles the question regarding the menorrhagia. Profuse menstruation, and even metrorrhagia, is one of the most invariable accompaniments of fibroid growths of the uterus. This fact led Matthews Duncan to call this trouble "the bleeding disease of the uterus."

Treatment.—The patient was etherized, placed on her left side, and the parts brought into view by Sims' speculum. The chain of the écraseur was made to embrace as much of the tumor as possible, without including the vaginal wall. While the chain was being tightened, every care was taken to avoid the possible accident of opening into the cul-de-sac of Douglass. The whole of the portion (about the size of a hen's egg), which projected into the vagina, was removed, and although the operation was rather quickly performed, no hemorrhage occurred of any account. The patient remained in the hospital for about six days, and during that time she had no trouble. She then went home, and returned in fourteen days after the operation. At that time the parts had nearly healed, but there still remained a hard mass in the posterior wall of the cervix. She was again etherized, and the remaining portion of the tumor removed by enucleation. The operation was performed by making an incision through the mucous membrane, on each side of the stump left by the écraseur, and then dissecting out the tumor with a probe-pointed curved scissors. The patient remained in the hospital for a short time, during which the wound healed very favorably. Since then she has fully regained her health, and menstruates regularly and normally. The uterus has returned to its normal size, shape and appearance, except that there is a scar on the posterior lip of the cervix, where the tumor was situated.

Remarks.—In the management of fibroids of the uterus, the indications for treatment are the same as that which applies to tumors generally. Whenever the growth endangers the life, or materially affects the comfort of the patient, we are advised to remove it, when it can be done with safety to the patient. We cannot always fulfill the indications in cases of tumor of the uterus. These growths are very often located where we cannot reach them, as, for example, when they grow from the external surface of the uterus, beneath the peritoneum. Fortunately, in this case the tumor was within reach. The process of enucleation, by which we removed the last half of the tumor, is an operation which is practiced more frequently now than in former days, and though difficult and dangerous, the results, in well-selected cases, are gratifying. The question might be asked here, Why we did not enucleate the tumor at first? This can be fully answered by recalling the fact that the portion of the tumor which projected from the cervix completely filled the vagina and prevented the manipulations necessary in enucleation.

Epithelioma of the Cervix Uteri—Removal.

History.—Louise M., æt. 32 years, married eleven years, and the mother of one child ten years of age. The catamenia began at fourteen years of age and have been regular,

but scanty. Her general health has been good up to two years ago, since which time she has been complaining more or less.

Present Condition.—The symptoms in this case presented nothing very definite. They are wandering pains, considerable bearing down and slight leucorrheal discharge. Her appetite is poor and she has been gradually falling in strength. The secretory organs act normally.

Examination.—Though the general history indicated no very marked uterine trouble, yet it was thought best to make a physical exploration. Vaginal touch showed the uterus somewhat lower in the pelvis than usual, and the leucorrhœa rather more abundant than was inferred from the statement of the patient. On the anterior lip of the cervix there was a hard and peculiarly nodular portion. The speculum was used to bring the parts into view, and the suspicious feel to the cervix more closely examined. The diseased part was found to be circumscribed, and well defined from the surrounding tissues. While the evidence was strongly in favor of an epithelioma, yet a diagnosis could not be made with certainty, and the patient was advised to wait further progress. She appeared at a later clinic, and with no improvement in her condition. She then desired the removal of the mass if it was thought best. On re-examination the abnormal part presented more advanced signs of malignant disease, and was beginning to ulcerate. It was, therefore, decided to remove it by amputation of the cervix.

Comments.—The history of this case illustrates two very interesting points. First, the fact that the early stage of malignant disease of the uterus is not attended with any marked symptoms. This is why patients put off consulting a physician until the disease gets beyond the reach of treatment. Again, when we can examine the uterus, when the disease is just beginning, it is not possible to make a correct diagnosis. She must wait until the clinical history of the affection is partially developed before we can make sure of the nature of the trouble.

Treatment.—The patient was anæsthetized and the cervix removed by the flap operation with curved scissors. The parts were then brought together and the mucous membrane drawn down and held by fine sutures. The parts healed nicely and presented a good stump. The patient left the hospital and has not reported her condition since. It may be presumed that she remains well. This plan of treatment answers very well in cases where the disease has not advanced far. When the whole portion involved can be cut away and leave tissue enough to make a good stump, the results are usually very satisfactory.

Case of Carcinoma Uteri—Removal by the Galvano-Cautery.

History.—This case first came to the outdoor service in November, 1870, and gave the following history. Elizabeth B., æt. 40 years; married 26 years; has had two children, the last sixteen years ago. The menses have always been regular up to three years ago, and since then it has continued three weeks at a time, the discharge, of a pinkish color, containing clots. She complained of severe pain in the back and constant pelvic tenesmus; free leucorrhœa, appetite poor, bowels regular, micturition frequent and painful, sleeps well, abdomen tympanitic, very anæmic in appearance.

Examination.—Physical exploration at this time revealed the anterior wall of the cervix very much enlarged, and appeared hard and indurated to the touch. The cavity of the uterus was increased in size. Suspicion of malignant disease was entertained, and she was ordered to return from time to time for further observation. She was put upon quinine and iron, in connection with Fowler's solution and anodynes, to relieve pain.

Progress of Case.—This patient presented herself several times up to the following March, and though her general health was somewhat improved under the above treatment, the local difficulty gave unmistakable signs of slow but persistent progression. From this time she failed to appear at the clinic, and nothing was heard of the case until August, 1872, when she was seen at her home, and found to be suffering intensely. She was having profuse menorrhagia, and in the intervals a constant watery discharge, very offensive. Complained of lancinating pain, referred to the back and inguinal region; micturition very frequent and painful; bowels were regular, appetite poor, very nervous and not able to sleep at night. Her complexion was waxy, her whole appearance denoting extreme anæmia; lower extremities œdematous. An examination at this time gave evidence of the rapid progress of the disease, and left little doubt of the diagnosis. The entire anterior wall of the cervix was involved and the vaginal walls implicated to some extent. The morbid growth had begun to ulcerate and break down. It was considered useless to operate, and she was ordered to continue the medicine before given, and such other medication as would relieve her sufferings. Shortly afterwards she had an attack of flooding that could not be controlled except by the use of the tampon. On further consultation it was decided to remove as much of the mass as possible, with the view of restraining the excessive hemorrhage, which was threatening her life.

Operation.—This took place the latter part of August. Having been etherized, Prof. Skene removed, by the galvano-cautery wire and knife, as much of the diseased tissue as was possible. This was accomplished with difficulty, as the tumor, which filled the lower and anterior portion of the pelvis, was such that the wire loop of the cautery could not be made to retain its hold. To obviate this difficulty a long needle was passed through the nearest portion of the growth, and the two ends left projecting. The loop of wire was then passed over the needle so

as to embrace all that portion anterior to it. The wire was heated and the part separated. The whole mass was removed by sections in this way, the cautery knife being afterwards used to detach such portions as could not be reached by the wire loop. She rallied well from the operation, and was carefully treated for some time with nutritious diet and supporting remedies. Her health rapidly improved, so that she was able to attend to her household duties and walk out in the street, and, with the exception of some intermittent pain, her recovery seemed perfect. The menorrhagia and offensive discharge stopped. Considering herself well, she was discharged from the clinic, with the advice to return if there should be any renewal of the old symptoms. Nothing was heard from her until October, 1873, when she reappeared. Since the operation she had enjoyed admirable health and comfort. Lately she began to complain of a slight abdominal discharge of blood. An examination was made, which showed that the disease was beginning to make its reappearance. The stump showed signs of ulceration in a slight degree. She was requested to return in a month, so that we might observe the progress of the disease and use further treatment. This case illustrates the advantages of operation, even in an advanced stage of cancerous growths, merely as a palliative measure. This patient has enjoyed more than a year of comfort and life, while there is no reason to doubt that without this treatment she would have succumbed to the exhaustive discharges within a few months. The disease will eventually destroy her, but the credit of prolonging her days must be admitted by all who saw the case and know the history of similar patients.

Medical Societies.

VERMONT STATE MEDICAL SOCIETY.

The Vermont Medical Society held its fifty-ninth annual session at Montpelier, October 8th and 9th. At the appointed hour, Dr. H. D. Holton, of Brattleboro, called the society to order, and the proceedings of the June session were read by Dr. L. C. Butler, of Essex, Secretary.

Dr. Goldsmith, of Rutland, one of the Commissioners for Vermont, for the national celebration at Philadelphia, July 4, 1876, spoke of the proposed International Medical Congress to be held at the same time and place, for which arrangements are now in progress, and mentioned as among the subjects which would be considered, the unification of our Pharmacopœia. The Doctor suggested that the society should take some action in relation to the subject, and be represented in that Congress.

Dr. H. S. Brown, of St. Johnsbury, presented a report on the subject of the so-called *Gastric Fever*, which has been prevalent in Caledonia and Orleans Counties. Responses to inquiries from different members of the society elicited the facts that it did not occur as an epidemic, was fatal in but few cases, emitted a peculiar penetrating odor of an acidulous character, attached to the person and not to the vomit, has little attending fever, presents vomiting as the most prominent symptom, and persists, in spite of all remedies, in running a course of two to six months.

A paper on the *Alkaline Sulphites* and *Bisulphites*, in which the history, nature and therapeutic uses of these remedies were presented, and strongly commended to the consideration of the society by Marshal Calkins, M. D., of Springfield, Mass., was read by the Secretary, in the absence of Dr. Calkins, and referred to the Committee on Publication.

Dr. J. N. Stiles, of Windsor, reported a case of facial neuralgia originating from defective teeth and alveoli, in which all the usual remedies had been applied without avail, but which finally yielded to the application of ice, the pain being relieved in half an hour.

Discussion upon the subject of typhoid fever followed, and was participated in by almost every member of the society present.

Dr. Goldsmith opened the discussion with the following views:—

Typhoid fever is a specific disorder. The malaria which produces it produces that disease only. Whatever the circumstances under which it exists, it follows the law of continuous succession. As small-pox virus produces nothing but small-pox, so the virus of typhoid fever produces only that fever. This malaria is capable of independent production. The excreta may be passed into a large reservoir, yet, if carried away from that, will produce the disease. The medium of this malaria is in the fæcal matter, not demonstrated by the microscope, but will still infect, and is only produced in human excreta. The emanations from the sewers of a large city inevitably produce the disease in families coming under its influence. The malaria of yellow fever or cholera, added to human excreta, has the capability of converting the whole mass to the poison of cholera and yellow fever. These views are sustained by the best medical authority, which the Doctor quoted. How does it get into the system? By drinking it, as in the schools where the fever has broken out? By breathing it, and so infecting the blood? This is the common opinion. Does it enter into the air-cells? Tyndall says, as to floating bodies in the air, or suspended animal matter, the air in the air-cells is chemically pure. We may swallow it with the saliva and it may enter the system in that way, and it is not demonstrable that it enters in any other way. Has any one seen any of this ferment in the blood? Has its existence there ever been demonstrated? Hospital gangrene was once supposed to be a constitutional disease, but the local application of bromine to gangrenous sores in the army exploded that idea, and

zymosis disappeared with the cure. When we aborted the local, we aborted also the constitutional disease.

The ulcerations of Peyer's glands, always present in typhoid fever, are the result of a specific poison introduced from without. The disease begins with disturbance of the bowels, generally in the lower part of the small and the upper part of the large intestines, extends in the line of the fæces, and the ulceration begins when the fæcal matter is the most perfect. The febrile state has no relation to the intensity of the ulceration, but is independent of it. It is not the yeast plant itself that produces intoxication. The plant, for that matter, may be swallowed with impunity and carried along the alimentary canal. It is the educt of the yeast plant that produces the mischief. So it is the educt of this ferment along the intestines that produces typhoid fever. To abort the disease we want a remedy that will do in the intestines what it will do for the fæcal matter in the stool. Its operation will be that of a disinfectant.

The discussion was continued by Drs. Carpenter, Bradford, Stiles, Butler, Holton, Putnam and others, by whom the zymotic character of the disease, or that of a specific virus acting upon the blood and producing fomites, was very ably stated and defended.

On motion of Dr. Goldsmith, a committee was appointed to prepare a series of specific questions upon this subject, to be referred to each physician of the State for special inquiry and reply. Drs. Goldsmith, Bradford and Butler were appointed that committee.

On Wednesday evening the society listened to a very able and interesting address from President H. D. Holton.

Drs. Putnam, Holton and Butler were appointed a committee to carry out the recommendation of the President relative to a State Board of Health.

On Thursday morning the Committee on Nominations made their report, as follows, and the persons named therein were unanimously elected to the several offices designated: President, L. C. Butler, Essex; Vice-President, H. S. Brown, St. Johnsbury; Secretary, E. S. Peck, Burlington; Assistant Secretary, S. S. Clark, St. Albans; Treasurer, D. G. Kemp, Montpelier; Auditor, C. M. Chandler, Montpelier.

Editorial Department.

Periscope.

The Treatment of Asthma.

The following extract is from a lecture by Dr. C. T. Williams, reported in the *Lancet*:—

1. *Stimulant Anti-spasmodics.*—A certain number of asthmatics gain relief by sulphuric ether, by strong coffee, and even alcohol. One of the most recently introduced of this class is the nitrite of amyl, which, by acting as a violent cardiac stimulant, sometimes relieves the spasm.

2. *Sedative Anti-spasmodics.*—This is an almost endless class; and if the sufferer perseveres he generally gets relief from one or more members of the group, which includes datura stramonium, tatula, belladonna, hyoscyamus, tobacco, lobelia, Indian hemp, and others. With regard to stramonium, belladonna, and henbane, their use was dictated, as is well known, by the experiments of Dr. C. J. B. Williams, who found that in animals poisoned by these drugs the bronchial tubes were dilated and incapable of being excited by any stimulus, and presented a marked contrast to the results of opium-poisoning, where the bronchial tubes were found contracted after death. Both stramonium and belladonna seem to act most beneficially in the slighter cases; but where they cause dryness of the throat, or even delirium, they seem to have little effect on the bronchial muscle. I found far more satisfactory results follow the use of the extract of stramonium made from the seeds, in quarter-grain to half-grain doses, than in smoking the cigarettes of the leaves, which, however, have a high repute. Lobelia is a valuable agent when used in sufficiently large doses; but to do much good it must be administered, not in doses of from ten to thirty minims, as is often done, but a drachm at a time, and repeated every three or four hours until some effect is produced. Tobacco when smoked has a sedative influence, but when taken into the stomach is a very unsafe remedy, it being necessary to push it to the extent of vomiting before relief comes, and ofttimes alarming symptoms of failure of the circulation follow. Indian hemp has been used, and with a certain amount of success, but it occasionally gives rise to curious head symptoms, and therefore requires careful watching.

Inhalations of various kinds, and smoking the different kinds of cigarettes often do good if the spasm be not very severe; but when this is the case we must expect them to fail, as they generally do, from the great difficulty of introducing them into the system. It is then that hypodermic injections of morphia come in useful, and, by inducing slumber, relax the spasm. The dose should be from one-sixth to one-fourth of a grain, repeated from time to time, and their use is at once contra-indicated by any blueness of the face or signs of obstructed circulation.

In very obstinate cases you will find that sometimes all drugs fail, chiefly on account of the difficulty of introducing them into the system, and the fit gradually wears itself out, generally through the carbonic acid accumulating in the lungs and inducing anæsthesia of the mucous membrane, and thus relaxing the spasm.

I can testify highly to the benefits of chloroform inhalation in the worst cases, in many of which it has acted like a charm, and sent the sufferer into a calm slumber, from which he has awoke free from dyspnœa. In others the relief is temporary, and the spasm returns as severely as ever. The objections to the use of chloroform seem to me to be twofold. First, it sometimes, in small quantities, i.e., less than one drachm, causes intermittence of the pulse; second, it cannot with safety be entrusted to the patients themselves.

For these reasons I determined to follow Professor Biermer's example, and try the nearest and safest approach to chloroform, viz., chloral, and I selected for the purpose several cases where the fits were of long continuance, and marked by only short intermissions. The chloral was given in doses of from fifteen to twenty grains, in an ounce of peppermint water, every three or four hours. The effect in almost every instance was that the patients fell fast asleep after the first dose, and slept in a recumbent posture for a few hours, which they had not been able to do for days and weeks. On awaking there was a tendency of the spasm to return, which was generally obviated by two or three repetitions of the large doses. The breathing gradually became quite free, except when considerable emphysema existed, and here the asthmatic spasm was removed, and only the habitual dyspnœa remained. The doses of chloral were then reduced, and gradually discontinued.

Having succeeded with the most troublesome form of asthma, I next tried the drug in cases where the attacks, though severe, are far from periodic, appearing at a fixed hour every night, and completely disappearing every day. Here the chloral seemed still more successful, as a large evening dose generally afforded a good night's rest, and steady perseverance with the night draughts seemed to break the habit of the attacks, and eventually to get rid of them altogether. After this I have tried chloral in most forms of spasmodic asthma, and it is not to be wondered at that it has become a favorite prescription in my wards.

In the twenty cases in which I have used it, speedy relief has been obtained in all. In two this has only been temporary; in the other eighteen permanent. In three cases where the scruple doses have been repeated several times, the patient complained of queer sensations in the head, and in one of these, a very obstinate case, where the chloral was continued for days, the patient complained of feeling muddled. Vomiting came on, which disappeared on the appearance of a purpuric eruption on the legs. The drug was of course discontinued, and in a few hours the wheezing, which had ceased, returned. This was the only instance of bad effects following.

Diabetes Treated by Galvanism.

In the *Wiener Med. Wochenschrift* Dr. BISCHOFF relates the case of a patient, forty-four years old, who had for thirty-two days discharged on an average daily 2885 *grammes* of urine and 24.6 *grammes* of sugar. In consequence of intercurrent occipital neuralgia, galvanism was applied to the neck. The negative electrode was applied high on the neck, and the positive between the angle of the lower jaw and the mastoid process, then over the supraspinous fossa; and again, the positive pole being retained in the latter position, the negative pole was drawn twelve or fourteen times over the course of the occipital nerve and the cervical spinous processes; finally, the negative pole was applied alternately in the right and left supraclavicular fossæ, and the positive in the epigastrium and over the liver. This treatment was continued, the application in each place being made for one or two minutes daily, for thirty-two days. The daily quantity of urine became reduced to 2056 *grammes*, and that of sugar to 11.69 *grammes*. Two months after the galvanism had been left off, an examination of the urine for fourteen days showed that the quantity discharged daily had risen to 2488 *grammes*, and that of sugar to 19.87 *grammes*. On the death of the patient, a year and a half afterwards, there was found to be chronic disease of the vessels in the floor of the fourth ventricle and the neighboring parts of the brain.

Reviews and Book Notices.

NOTES ON CURRENT MEDICAL LITERATURE.

——A book that promises to be very entertaining is now on the anvil. It is the autobiography of Dr. Granville, whose practice was great, not only in England and its metropolis, but in Russia and St. Petersburg, and at all the German spas. He was a pupil of the celebrated Volta, and obtained a diploma at the early age of nineteen. He served in the Turkish as well as in the English navy, and witnessed some strange scenes. One of his eminent patients in later years was Lord Palmerston, whose life he saved at the time of the cholera by the use of a heated smoothing iron applied to his spine. Sir Henry Holland's charming reminiscence will probably be eclipsed by the proofs of frankness which abound in the forthcoming volumes.

MEDICAL AND SURGICAL REPORTER.

PHILADELPHIA, NOV. 8, 1873.

S. W. BUTLER, M. D., D. G. BRINTON, M. D., Editors.

☞ Medical Societies and Clinical Reports, Notes and Observations, Foreign and Domestic Correspondence, News, etc., etc., of general medical interest, are respectfully solicited.

Articles of special importance, such especially as require original experimental research, analysis, or observation, will be liberally paid for.

☞ To insure publication, articles must be *practical*, *brief* as possible to do justice to the subject, and *carefully prepared*, so as to require little revision.

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We particularly value the practical experience of country practitioners, many of whom possess a fund of information that rightfully belongs to the profession.

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THE ULTIMATE OF SCIENCE.

The rapid advance of modern medicine is due to the application of all the physical sciences to its purposes, chemistry, natural history, and their allies. Hence the importance to every enlightened physician to acquaint himself, at least in outline, with their progress.

This, of late years, has been indeed vast; and the immense aggregation of facts and lesser generalizations have rendered more and more urgent some universal expression which can contain them all, some supreme law which will reach as far as the human mind can go, some ultimate truth where the restless thought can repose and seek no further. What we hold this ultimate truth to be must influence our views of science, life and nature most materially, and therefore we deem it in place to explain to our readers the two camps into which the scientific world is divided on the important scheme.

The reduction of light, heat, electricity, magnetism, chemical affinity, and nervous power to correlated Forces, and these again to forms of Motion, is by this time familiar to all reading men, and on the words of this general formula there is no material wrangling. But on the *meaning* of the terms Force and Motion the dispute begins. Let us recapitulate the heads of the discussion, giving a hearing to each side.

What, then, is Force, or, a Force? What do we mean by this term?

On the one hand, there is the purely physical school of thinkers, represented in England by such men as Prof. MAXWELL, of Cambridge; Prof. BAIN, of Aberdeen; and Prof. TYNDALL. These say Force *is* Motion; in the words of Prof. BAIN: "*Inert matter in motion* is the definition or generalization of Force." (*The Logic of Induction*, page 21.)

On the other side, we find such equally eminent thinkers as the late Dr. WHEWELL, of Oxford; Prof. BAYMA, of Stonyhurst; and Mr. J. CROLL, of the Geological Survey of Scotland. These mean by Force something quite different. Prof. Bayma, for example, says: "Force is not the action, nor the motion, but the intensity of the action measured by the quantity of motion which in given circumstances the action is capable of communicating." (*The Elements of Molecular Mechanics*, p. 14.) Heat, for example, is not force, nor a force; the force in heat is the intensity of the calorific action.

Another antithesis of views appears when we inquire concerning the cause and nature of motion. The first mentioned school hold as a fundamental doctrine that motion is indestructible, omnipresent, and eternal. This is denied straight out by Prof. BAYMA and others. That learned mathematician distinctly defends, in the first book of his *Molecular Mechanics*, the following thesis: "An increase or decrease of intensity in motion is always due to a real production or extinction of velocity." He denies *in toto* both the indestructibility and the transmission of motion. The latter apparent phenomena he explains as *propagation*, not transmission, each molecule exerting inde-

pendent action to arouse the action of the adjoining molecule. Nevertheless, he points out the broad and true distinction between *production* and *creation*, *extinction* and *annihilation*; and does not apply these latter terms to motion. To put it in metaphysical terms, he regards motion as an accident and not as a substance; there remains a Substance behind it.

This view is substantially that the cause of motion is a permanent action exerted by or through the particles or molecules of matter. This action may be reduced to universal attraction under the form of the Newtonian law of gravitation, or universal repulsion, according to the theory of Prof. NORTON, in this country.

But of the nature of this Action regarded as a cause of motion there is a similar disagreement. Prof. BAIN considers the question an idle and a foolish one, and does not spare hard words for those who ask it.

"Transferred energy," he says, "is the final or sufficing explanation of all change, and the only explanation in the highest sense of the word. "And again, speaking of logical fallacies, "The greatest fallacy of all is the supposition that something is to be desired beyond the most generalized conjunctions or sequence of phenomena." (*Logic of Induction*, pp. 30, 126.) So also Prof. J. CLERK MAXWELL, in his *Theory of Heat*, p. 281, emphatically says: "When we have acquired the notion of matter in motion, and know what is meant by the energy of that motion, we are unable to conceive that any possible addition to our knowledge could explain the energy of motion, or give us a more perfect knowledge of it than we have already."

This is very positive language, almost dogmatic, but it need not frighten us, for there are not less eminent defenders of precisely the opposite view, who maintain that neither motion nor the energy of motion (force) is competent to explain physics, nay, who say they can give no sort of proper explanation at all. Dr. WHEWELL, for example, says: "The idea of Force as distinct from mere motion, as the Cause of motion or of tendency to motion, is not less real *because it implies volition*." (*History of Scientific Ideas*, vol. ii, p. 251.)

Here is the secret bone of contention! This idea of a Volition behind the most general laws of phenomena is the notion hated by the purely physical school, their *bête noir*, the cloven foot they always suspiciously look for in any theory but their own. It is in truth the fulcrum of the controversy. They flatly deny that it should be permitted any entrance into the discussion. They say it is "incompetent and unmeaning." (*Bain, ubi suprà*, p. 127.)

But against them Mr. J. CROLL asserts that the Determination (*i. e.*, the direction, regulation, or application) of motion is something very different from its Production. If Force guides itself, by virtue of *what* does it do so? Energy cannot direct energy. The determination of molecular motion is something else than the laws of that motion. They are merely the results of observed sequences; they are not regulative; or if regulative, then they mean something very different from an empirical law. *Form* can never be the product of forces; it is not their result, but the result of the *way* in which they are applied, the effect not of the forces but of that guiding or directing power which rests behind them. (*London Philosophical Magazine*, July, 1872, pp. 5-25.)

He and those with him insist that the Law of Causation can never offer a completely satisfactory explanation to the human mind. No matter how far up it is carried, no matter how supreme and universal the generalization reached, the mind cannot help still inquiring for yet another proximate cause. This Professor BAIN pronounces to be inept; "the limits of Explanation are the limits of Induction" is his dictum, and true as it is, it is not the whit more satisfactory for all

that, and no matter how many logicians sustain it, the mind itself will not.

And why not?

Because there is a wider, a more comprehensive truth, which decrees that no explanation dependent on the physical laws of causality can satisfy the thinking faculties; that they require, that they incessantly and increasingly demand, the ultimate reference of every law of phenomena to a law of Intelligence. Derided and despised as this instinctive longing may be, it will remain still importunate and clamorous until it is recognized, listened to, respected, yes, honored, and at last assigned its just position as the truest and grandest instincts of man's nature.

Notes and Comments.

The Origin of Yellow Fever.

The Chamber of Commerce of Galveston, Texas, has appointed a commission to make exhaustive investigation into the cases of yellow fever which may occur until the disease becomes epidemic, so as to ascertain all facts which can have any bearing upon the origin or importation of such cases, and to that end to obtain the written examinations of surviving patients, physicians and others, who can throw any light upon the subject, and report such examinations to the Chamber of Commerce, when they will be printed for the use of the medical faculty, and for the information of the public. The investigation is to be made "irrespective of all theories and preconceived opinions, that the whole truth, and nothing but the truth may be arrived at," and the co-operation of the medical fraternity in the work of the Commission is earnestly asked.

Dangers from Chloral.

Quite a number of serious results from medicinal doses of chloral are reported in the German journals. Dr. Arndt relates one case of general paralysis, who got chloral to subdue restlessness and cause sleep. In about a month his appetite fell away, and he complained of pain in the stomach, and in a week after died. On examination the arteries of the brain were atheromatous. The stomach was found to be deeply diseased, the mucous membrane eroded in many places and easily torn; the larger vessels widened in calibre, and the smaller ones burst in some places, so that extensive ecchymoses were formed. There was a perforation the size of a thaler in the posterior wall of the stomach. The author believes that this death was owing to the use of chloral given in ordinary medicinal doses, and that death was brought about by its exciting inflammation of the stomach and bowels, which sometimes causes jaundice. He gives a large number of observations, principally from German periodicals, where chloral appears to have been the cause of unpleasant or dangerous symptoms. These are of a varied character; the most frequent one noticed is the appearance of a rash or flushing of the face, eyes, and neck. Schüle found from examination through the ophthalmoscope that the injection of the capillaries extended to the retina, and thought that it extended to the brain. Other authors give instances where chloral appeared to cause congestion of the brain, purpura, œdema of the feet, etc.

Invalid Climates.

A comparison of three places of invalid resort, Mentone, France; Aiken, South Carolina; and Anaheim, in Southern California, for the months of December, January and February, has been made by Francis S. Miles, of New York. He says that at Anaheim, an invalid could have been out of doors all day during 81 days, and would have been confined in doors by bad weather 9 days. At Mentone there were 67 fair days and 23 bad days, and at Aiken, 53 fair and 37 bad days. The average temperature at Anaheim, during the three winter months, was 61 degrees; at Mentone, 48⅓ degrees, and at Aiken, 53 degrees.

Pyromania.

The following description of a typical case of this curious neurosis is detailed by Dr. Meschede, in the *Zeitschrift fur Psychiatrie*.

Natalie X commenced to have fits when three years old. She gradually became violent and unmanageable, especially when the fits were more frequent than usual. At last she became very dangerous, attacking animals and children with pointed instruments, and trying to set things on fire. When questioned she said that an inner voice drove her to do what she was blamed for. She several times set fire to the Asylum of Schwetz, where she was confined. She died

at the age of eighteen, a confirmed epileptic maniac, apparently of phthisis pulmonalis. On examining the body the skull was found asymmetrical, the left cavity being larger than the right. On the Clivus Blumenbachii, just behind the sella tursica, there was a prominent osseous growth in the form of a crest; the arachnoid at the lower part of the brain thickened and less clear than usual. The substance of the brain was tougher than usual; the pons and medulla oblongata, especially the olivary body, were hardened.

CORRESPONDENCE.

Therapeutics of the Nausea and Vomiting of Pregnancy.

EDS. MED. AND SURG. REPORTER:—

Gastric irritability is the normal condition of pregnancy. And while this exhibition of uterine sympathetic action is usually a prelude of safety to mother and child, it occasionally threatens to imperil the lives of both. The consideration of the propriety, and the actual production of abortion, under these circumstances, with the view of saving the health and life of the female, render the therapeutics of excessive gastric irritability of more than ordinary importance.

The prescription and commendation of a long array of remedies attest the obstinacy which medical men occasionally encounter in their efforts to combat this manifestation of inordinate sympathetic irritation.

Medicines possessing entirely different therapeutic value, and having opposite relations to each other, have been prescribed, with more or less relief to the patient, yet without affording an entirely satisfactory solution of their "modus operandi."

Now and then, however, it occurs to every practitioner to meet with cases which resist all the armamentaria of the "Materia Medica," and it is with the view of meeting these obstinate cases that the following brief exhibit of the virtues of *nux vomica* has been prepared.

Without claiming any originality in the use of this drug, the following case assuredly confirms the value which has been attached to it, and demands recognition in the consideration and treatment of inordinate gastric irritation from pregnancy.

I was called, in her fifth pregnancy, to visit Mrs. S——, a lady of decidedly nervous temperament, and who had, for a number of years, been a victim to severe and obstinate paroxysms of neuralgia of the head, neck, and shoulder.

The distressing nausea and vomiting had been decidedly prominent in previous pregnancies, and her physicians, with their varying prescriptions, had failed to mitigate the symptoms in the slightest degree.

With the expectation that my remedies would share the fate of my *confreres*, I commenced the treatment by the administration of the following combination, recommended highly by Prof. White, of Buffalo:—

R.—Cerii oxalatis,
Bismuthi subcarb.,
Pepsinæ, āā ʒ. M.

Divide into 12 powders; one three times a day.

This failed to afford any amelioration. Oxalate of cerium alone was tried, and with a similar result. With a faint hope, I then directed two drops of tincture of *nux vomica* to be given every two hours.

This produced a *decided impression* upon the symptoms and afforded infinite relief to the patient, without the development of cramps, which have been attributed by Lobach to the use of this drug.

L. S. BLACKWELL,
Bound Brook, N. J., Oct. 29th, 1873.

Ilio-Jejunal Stricture of the Intestine.

EDS. MED. AND SURG. REPORTER:—

A post-mortem examination made upon the body of Mrs. W., of New Braintree, Mass., October 18th, revealed a stricture of the bowel at about the ilio-jejunal junction. In looking up the literature of this subject I find that a very large majority of the cases of stricture of the bowel occur in the sigmoid flexure of the colon or rectum. Of seventy-seven cases tabulated by Geo. Pollock, the seat of stricture in sixty was sigmoidal or rectal. In one half of these the causus morbi was carcinoma. A non-malignant stricture of the intestine at the ilio-jejunum, it seemed to me, might appropriately knock at the door of your columns for admission.

Mrs. W. came under my care about the middle of July last. She had been conscious of failing physical powers for upwards of two years, but did not take her bed until about the first of June.

The whole train of symptoms presented certain evidence of intestinal obstruction. While there was regurgitation of more or less of the ingesta for the last three months of her life, there was never complete obstipation. An alœtic pill taken every day or two sufficed to move the bowel, but there still continued evidence of progressive obstruc ive action. The sectio cadaveris revealed the seat of stricture, which, while not complete, prevented all peristaltis. A goose quill could be passed through the opening.

The cause of stricture, in the opinion of the medical gentlemen present, was the contraction of the cicatrix of an old ulcer. The whole intestinal tract was the seat of inflammatory action, sub-acute in character. The base of the cæcum was tightly adherent to the surrounding tissues, admitting of no motion whatever. It was in this portion of the bowel that the patient was first conscious of pain and tenderness, all of which symptoms had ceased many weeks before death ensued. The spleen was very much atrophied, being about one-third the natural size.

A. G. BLODGET, M. D.
West Brookfield, Mass.

News and Miscellany.

The Quincy, Ill., Medical College.

The following is the Faculty of this newly organized institution:—

Joseph Robbins, M. D., Professor of Theory and Practice of Medicine.

H. W. Kendall, M. D., Professor of Principles and Practice of Surgery.

Addison Niles, M. D., Professor of Obstetrics.

R. W. McMahan, M. D., Professor of Diseases of Women and Children.

M. Rooney, M. D., Professor of Materia Medica and Therapeutics.

I. T. Wilson, M. D., Professor of Medical Jurisprudence and Hygiene.

Wm. Zimmermann, M. D., Professor of Clinical Medicine and Pathology.

L. H. Cohen, M. D., Professor of Chemistry and Toxicology, and Lecturer on Diseases of the Uropoietic System.

C. A. W. Zimmermann, M. D., Professor of Systematic and Surgical Anatomy.

Wm. A. Byrd, M. D., Professor of Physiology and Clinical Surgery.

Prof. H. W. Kendall, M. D., *Dean of the Faculty.*

Prof. L. H. Cohen, M. D., *Secretary of the Faculty.*

American Medical Association.

PHILADELPHIA, October 17th, 1873.

Volume XXIV, of the *Transactions*, is now ready for delivery. Subscribers will please forward at once THIRTY-SIX CENTS, to prepay the postage.

Attention is called to the following ordinance:—

"*Resolved*, That if any member fail to reply for more than one year to the circular sent to him by the Committee of Publication, he shall forfeit his right to the volume, and it shall revert to the Association, to be sold to any applicant at the current rates." (*Vide* TRANSACTIONS, Vol. XXI., p. 30).

Very respectfully,

WILLIAM B. ATKINSON,
Permanent Secretary American Medical Association, No. 1400 Pine street.

Arrest of a Physician.

In the village of Quincy, in this State, a physician named Dr. Hess has been arrested on the charge of causing the death of his wife by means of poison. The stomach of the deceased woman has been sent to this city to be analyzed.

The Cholera.

In Vienna there were, from the 16th of July to the end of September, 3020 cases of cholera, of which 1230 proved fatal. The latest accounts show that the disease is sensibly abating.

"The cases of cholera," observes the Naples correspondent of the London *Times*, writing on the 28th ult., "up to this day, may be put down as being nearly 300, many of which have proved fatal."

For Sale.

One Drescher's Battery. Apply at this office.

—Over 1000 persons were reported sick with yellow fever in Memphis, Oct. 24th.

MARRIAGES.

ARMS—AVERY.—At Grace Church, College Hill, Cincinnati, October 16th, by the Rev. A. F. Blake, Charles J. Arms, of Pittsburg, and Alice, daughter of the late Charles L. Avery, M. D.

BLAKEMAN—VOSBURGH.—October 23d, at the residence of the bride's parents, by Rev. Dr. Upson, Caldwell Robertson Blakeman, son of Dr. Wm. N. Blakeman, of New York, and Sarah Fletcher Vosburgh, daughter of J. W. Vosburgh, Esq., of Albany.

CORNELL—SCOVEL.—At Christ Church, Detroit, on October 14th, by Rev. John W. Brown, assisted by Rev. George Worthington, Richard R. Cornell, of Buffalo, and May B. Scovel, only daughter of the late Dr. J. A. Scovel, of Detroit.

CULVER—BEALE.—October 23d, 1873, at the residence of the bride's parents, Germantown, by the Rev. A. Culver, Mason M. Culver, of Philadelphia, and Louise B., daughter of S. T. Beale, M. D.

GRIM—ROBERTSON.—By Rev. J. D. Moorhead, September 24th, at the house of the bride's mother, William Grim, M. D., and Miss Amelia Robertson, both of Beaver Falls.

HOFF—MORGAN.—In Germantown, October 23d, 1873, by the Rev. Wm. N. Diehl, rector of the Church of St. John the Baptist, L. Bainbridge Hoff, M. D., and Lillie A., daughter of the late Wm. McK. Morgan, M. D., of Pittsburg, Pa.

MADEIRA—KING.—By Rev. John Kerr, October 9, at the residence of the bride's mother, Sydney P. Madeira, formerly of Pittsburg, to Eliza C., eldest daughter of the late Wm. H. King, M. D., of Monongahela City.

MEARS—SIMONS.—October 21st, by the Rev. Dr. Harper, Dr. J. Howell Mears and Emily E., daughter of Peter B. Simons, all of Philadelphia.

PIERCE—SHUMARD.—At Fayetteville, Arkansas, at the residence of C. W. Walker, Esq., October 9th, by Elder S. K. Hallam, Dr. C. W. Pierce and Mrs. Isabella C. Shumard, all of Fort Smith.

SHEPHERD—FRANCE.—By Rev. S. L. Dickey, assisted by Rev. J. ·. Jackson, October 7th, at the residence of the bride's father, Mr. Wesley H. Shepherd and Miss Helen A., eldest daughter of J. B. France, M. D., all of Harlem Springs, O.

SHEPLEY—JAMES.—By Rev. S. H. Shepley, assisted by Rev. S. H. Holliday, at Brady's Bend, Pa., Oct. 8th, Mr. Charl s H. Shepley, of Petrolia City, Pa., son of the officiating clergyman, and Miss Ida M., daughter of J. W. James, M. D., of Brady's Bend.

SWEZEY—MILLER.—October 21st, at the residence of the bride's parents, by Rev. Howard Crosby, D. D., Gilbert H. Swezey, M. D., and Susan E. Miller, both of New York.

WAUGH—LASHER.—October 25th, 1873, by the Rev. J. W. Claxton, William F. Waugh, M. D., U. S. N., and Kate, daughter of Francis Lasher, of Philada.

WETHERILL—VALLETTE.—By the Rev. Wm. Suddards, October 23d, 1873, Mr. Charles Wetherill, and Miss Mary E. Vallette, daughter of Dr. E. F. Vallette, all of Philada.

DEATHS.

KEFFER.—September 27th, 1873, Dr. Frederick A. Keffer, aged thirty-three years, a native of Philadelphia, and for many years a resident of New Orleans.

OSTRANDER.—October 27th, Maria W., wife of Dr. Geo. Ostrander, No. 20 Greene av., Brooklyn, N. Y.